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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/823,102

04/13/2004

Yonghe Liu

TI-37140

4525

23494 7590 01/23/2008
TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS, TX 75265

EXAMINER

KANGARLOO, RAMTIN

ART UNIT

PAPER NUMBER

4177

NOTIFICATION DATE

DELIVERY MODE

01/23/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/823,102	Applicant(s) LIU ET AL.	
	Examiner RAMTIN KANGARLOO	Art Unit 4177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-20 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Examiner note

1. Examiner acknowledges notice of related application.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-5, 8-12 and 14-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Terry (US patent No. 7046651)

Regarding **Claims 1 and 10**, Terry discloses an arrangement for avoiding contention on a communication medium among devices including at least a transmitter and a receiver, the arrangement comprising: a first portion configured to instruct the receiver to indicate that the communication medium is busy for a time period substantially longer than an actual frame transmission period being sent from the transmitter to the receiver(See col. 8, Lines 9-30 and

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fig 1); and a second portion configured to prohibit the receiver from transmitting on the communication medium during the time period (See col. 2, Lines 62-66).

Regarding **Claims 2**, Terry discloses the arrangement of claim 1, wherein: the first portion is embodied in the transmitter; and the second portion is embodied in the receiver (Abstract).

Regarding **Claims 3** Terry discloses the arrangement of claim 1, wherein: the transmitter has a much higher throughput capability than the receiver (See col. 9, Lines 33-37).

Regarding **Claims 4 and 11**, Terry discloses the arrangement of claim 1, wherein: the first portion constitutes a field within a physical layer (PHY) protocol data unit (PDU), the field specifying duration of the time period (See col. 13, Lines 57-60).

Regarding **Claims 5 and 12**, Terry discloses the arrangement of claim 1, wherein: the first portion includes a designation in a SIGNAL1 field of a physical layer convergence protocol (PLCP) frame constituting the same frame that is being sent from the transmitter to the receiver (See col. 13, Lines 51-60).

Regarding claims **8, 14 and 20**, Terry discloses the claimed invention except to include a length of a network allocation vector (NAV) to perform virtual

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carrier sense (VCS) function. It would have been an obvious matter of design choice using (NAV) to perform (VCS) since applicant has not disclosed that (VCS) solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well without this configuration.

Regarding claims **9 and 15**, Terry discloses the claimed invention except to include a length of a network allocation vector (NAV) plus a time needed to transmit the given frame's payload to perform virtual carrier sense (VCS) function. It would have been an obvious matter of design choice using (NAV) to perform (VCS) since applicant has not disclosed that (VCS) solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well without this configuration.

Regarding **Claims 16**, Terry discloses a network including a communication medium on which contention is to be avoided, the network comprising: a transmitting element, configured to transmit on the communication medium, a frame that includes an instruction that the communication medium is busy for a time period substantially longer than an actual transmission time of the frame that includes the instruction(See col. 9, Lines 33-37); and a receiving element, configured to receive the frame that includes the instruction, and, in response to the instruction, to refrain from transmitting on the communication medium during the time period, so as to avoid the contention on the communication medium(See col. 2, Lines 62-67).

Regarding **Claims 17**, Terry discloses the network of claim 16, wherein: the transmitting element has a much higher throughput capability than the receiving element (See col. 3, Lines 15-18).

Regarding **Claims 18**, Terry discloses the network of claim 16, wherein: the communication medium is a wireless communication medium (See col. 1, Lines 13-18).

Regarding **Claims 19**, Terry discloses the network of claim 16, wherein: the instruction is a designation in a SIGNAL1 field of a physical layer convergence protocol (PLCP) frame constituting the same frame that is transmitted from the transmitting element to the receiving element, the SIGNAL1 field defining parameters associated with a particular communications protocol that is one of plural distinct communications protocols operating on the network (See col. 13, Lines 51-60).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terry (US patent No. 7046651) in view of Chen et al. (US Patent Application Publication No. 20050025143).

Regarding **claims 6 and 13**, Terry discloses all of the limitations as applied to claim 1, 5, 10 and 12. Terry does not specifically disclose about SIGNAL1 and SIGNAL2. Chen teaches legacy receivers, having a slower throughput capability than a throughput capability of the transmitter, recognize the SIGNAL1 field but do not recognize a SIGNAL2 field (see Page 2, Paragraph [0038]).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate signal verification taught by Chen into the contention control system as show in Terry in order to establish better connection so that the systems run more efficient.

Allowable Subject Matter

6. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Terry (US patent No. 7046651) teaches a contention control system for a shared communication medium wherein a communication channel

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may be shared by a plurality of wireless networks. The methods presented also include mechanisms for the receiver to indicate that the communication medium is busy or not. However prior art of record fail to teach the first portion sets the time period equal to a virtual clear channel assessment (VCCA) time period that equals a sum of: a content of a Duration field in frame header of the frame being transmitted; eight times a quotient of an actual length, in octets, of the frame being transmitted, and a transmission rate, in Mbps, of the frame being transmitted; an extended inter frame space; and a distributed inter frame space.

Response to Arguments

7. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

8. Any response to this Office Action should be **faxed** to (571) 273-8300 **or**

Mailed to:

Commissioner for Patents,
P.O.Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

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9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAMTIN KANGARLOO whose telephone number is (571)270-3452. The examiner can normally be reached on Mon to Fri 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Tieu can be reached on (571) 272-7490. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ramtin Kangarloo/
Examiner, Art Unit 4177
January 15, 2008

/Benny Q Tieu/
Supervisory Patent Examiner, Art Unit 4177